See and Hear –Holly Crawley

How Technology is Currently Used in My Classroom

Midway Elementary is a 37 year old school built "midway" between two rural farming communities in Jefferson County. Our school was designed as a modern, team-teaching facility, where three traditional-sized classrooms could be combined into one large area. Since that time, educational methods have changed, and wood paneling has replaced the folding dividers between the rooms. My fourth grade room now has three cinderblock walls and one wall where light and sound from the adjacent classroom seeps around the wood paneling divider.

Jefferson County School District has been very proactive in purchasing technology for the classroom, and each elementary classroom has 5 desktop computers in addition to the teachers' computers. In 2000 I wrote and received a Technology Literacy Challenge grant from the state of Idaho. At that time I purchased 7 additional desktop computers, and in 2001 I received an Equipping the Best grant from the J. A. and Kathryn Albertson Foundation which provided a laptop cart with 15 wireless laptops, a digital projector, and a SmartBoard. As a result of these two grants, each student in my class has a computer to use.

Beginning in September, each of my students spends approximately 30 minutes on a keyboarding program, *Ultrakey*, which provides audio as well as video instruction. I track their individual progress and give encouragement until each student can keyboard with enough accuracy and speed to make the computer a tool.

Gradually, using the SmartBoard to demonstrate, I introduce the students to the Microsoft Office programs. *Word* is used for all word processing, from writing poetry to final drafts of writing projects and Language Arts assignments. *Excel* is used to create spreadsheets with data they collect from individual surveys and turn into line and bar graphs. Students also use spreadsheets to track their personal learning curve on the 134 Idaho fourth grade spelling words, twenty of which they test on weekly. My students use *Publisher* to create a monthly calendar which they record their progress on *Accelerated Reading* goals.

Inspiration software is used to create idea webs for creative writing, and to find and illustrate the main ideas of literature they read. My students also use *Inspiration* to delineate the main points studied in science and Idaho History, convert them to outline form, and create individualized study guides.

Each student has their own folder on the school server, and all their documents are saved into their folder. Documents that need printed are printed on one of several printers available throughout the school.

At the conclusion of the fourth grade, each of my students create a web site using *Site Central* software. They choose their own topic related to Idaho History, research it, write the dialog, draw or photograph the pictures needed, then create the multi-page website. They present their websites to other classes during the fourth grade Idaho History Day, and have an evening presentation for their parents. I burn these presentations to a CD, which I give each student in May.

Technology is an essential component of the curriculum in my classroom. It is used multiple times daily in all subjects.

How Technology in My Classroom Has Improved Student Performance

"Technology is fun and interesting," one of my students told me. As a result of my students' positive attitude about technology, any subject touched by technology is approached with this positive attitude. Integrating technology into all subjects in the fourth grade curriculum enhances retention and enthusiasm.

It is difficult to document how my class' use of technology has impacted student performance in subjects like Idaho History and Science where we have not had standardized tests. However, my fourth grade class of 2003 – 04, which used technology to a lesser degree than the current class, had 83% of students meet reading proficiency scores on the Idaho Standards Achievement Tests compared to the Idaho average of 82% and showed an average of 8.5 point growth from fall to spring. This same class had 88% meet math proficiency compared to 84% state wide and showed an average of a 13 point growth from fall to spring; and had 90% meet language arts proficiency compared to 89% state average, and showed an average of 11.3 point growth from fall to spring.

Budget Narrative

        I am writing this grant for $2,103. With these funds I plan to add two pieces of technology to my classroom:

1. An $850 AVerVision 300 document camera (including shipping and handling), VGA/DVI wiring cable to connect the document camera to my existing LCD projector, costing $50.
2. An EL2M Compact 4 Speaker-Soundfield FM system wireless package with a 211R pass around microphone and receiver, costing $1203.00, including shipping and handling,

        The AVerVision 300 document camera is both portable and lightweight. It was designed for classroom use, and is powerful enough to display 10 to 12-pt font as well as students' handwriting. It is my intent to connect this camera to my existing ceiling-mounted projector in order to magnify and project examples of student writing, math manipulatives, use the camera for videoing student productions, and projecting science experiments for easier viewing, to name a few uses.

        The audio amplification system would permanently mount four wall speakers in the four corners of my classroom. These speakers would be connected to a wireless receiver. I would wear a wireless collar microphone, which would amplify and project my voice through the four speakers. I am also asking for monies to purchase a hand-held microphone for the students' use.

How This Equipment Will Enhance Learning in My Classroom

In a classroom of 25 to 35 students, it is very difficult, if not impossible, for each student to see science experiments the teacher is demonstrating. It is impossible to use actual student work for group peer-editing. It is not feasible for individual students to demonstrate to the entire class math concepts using small manipulatives. As a result of these constrictions, only the students seated closest to the front, or the tallest, pushiest students actually see what is being demonstrated. The only way I have found to illustrate actual student writing is to make permanent overhead transparencies of a few selected works to show on the overhead projector. This is expensive and time consuming.

I would like to have a document camera to use in these circumstances. It would be an ideal Language Arts teaching situation if students could project their own composition rough drafts for the whole class to see easily, then edit them while the entire class assists. This camera could also be used to project science and math demonstrations that use small pieces and equipment. It could enlarge small scales and fonts so all students could easily see them, and enable all seats in the room to be "front row" seats.

"Across distance, you lose speech," says Jeff Anderson, vice president with Audio Enhancement, a Salt Lake City firm that provides classroom amplification systems. "You don't just lose volume; every time the distance between a speaker and an audience is doubled, listeners lose the clarity of speech. In a classroom, the kids in the front row are fine, as long as the teacher doesn't move around or turn to the blackboard. But the rest of the class suffers from this distance problem. "Audio Enhancement calculates that a teacher's voice should always sound like it is no more than eight to 10 ft. away from every student.
http://www.peterli.com/archive/spm/535.shtm

A recent CBS documentary, "Eye On America," reported that even students with "normal hearing" hear a third more of what the teacher is saying with an audio enhancement system. In Ohio, every K – 5 public school classroom is now fitted with sound enhancement systems. Teachers interviewed for this television special reported a marked increase in student attention, improved behavior, and improved test scores when using a microphone and speakers to amplify the teacher's voice.

If I were awarded this sub-grant, I would use the sound enhancement equipment and the video enhancement tool to insure each student can both hear and see what is happening in the classroom. I believe each student deserves no less.

Qwest Foundation for Education Grant Expenditure Plan
(Standard IFARMS Budget Format)

Activity	100 Salaries	200 Benefits	300 Contractual Agreements	400 Materials and Supplies	500 Capital Objects	TOTAL
Audio Amplification System					$1203.00	$1203.00
Document Camera					$ 850.00	$ 850.00
wiring				$ 50.00		$ 50.00
TOTAL				$ 50.00	$ 2053.00	$2103.00